

REMARKS

At the outset, Applicant thanks the Examiner for examining the pending application. The Office Action dated February 27, 2008 has been received and its contents carefully reviewed.

Summary of the Office Action

Claims 1-3, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,097,362) in view of Lee (US 7,095,393). Claims 4, 7-9, 11, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,097,362) and Lee (US 7,095,393) as applied to claim 3, and further in view of Jeong (US 6,335, 721).

Summary of the Response to the Office Action

Applicant has amended claims 1, 2 and 13 to further define the invention. No new matter has been added. Thus, claims 1-17 are currently pending.

Claim Rejections – 35 U.S.C. § 103

Claims 1-3, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,097,362) (hereinafter “Kim”) in view of Lee (US 7,095,393) (hereinafter “Lee”). This rejection is respectfully traversed.

Claim 1, as amended, is allowable over the cited references in that claim 1 recites a combination of elements including, for example, “...a shift register array for sequentially generating a sampling signal; a latch array for sequentially latching pixel data by designated units in response to the sampling signal to simultaneously output the latched pixel data to a first multiplexer array, the pixel data including even pixel data (RGB even) and odd pixel data (RGB odd); the first multiplexer array for performing time-division on inputted pixel data to supply time-divided pixel data signals; a digital-to-analog converter array for converting the time-divided pixel data signals into pixel voltage signals; and a demultiplexer array for driving data lines in a time-division manner to supply the converted pixel voltage signals, wherein the digital-to-analog converter array receives a first time-divided pixel data signal from the multiplexer array and generates a first pixel voltage signal level having a first voltage value corresponding to the first time-divided pixel data signal, generates a second pixel voltage signal level having a

voltage at least one-step higher in absolute value than the first pixel voltage signal level and corresponding to the first time-divided pixel data signal.”

Applicant submits that “Kim” and “Lee”, analyzed singly or in combination, do not teach at least this combination of features. First, claim 1 recites “the pixel data including even pixel data (RGB even) and odd pixel data (RGB odd)”. Both “Kim” and “Lee” do not teach at least the feature of claim 1. Thus, none of the cited references, singly or in combination, teaches or suggests at least the feature of claim 1. Secondly, claim 1 recites “a digital-to-analog converter array for converting the time-divided pixel data signals into pixel voltage signals”. However, “Kim” does not disclose at least the feature of claim 1. See Fig. 2, item 39, col. 3, lines 40-57. “Kim” discloses “a decoder 39 for selectively outputting one of the 128 analog voltages supplied by an R-ladder and corresponding to output of the multiplexer 37”. One of the 128 analog voltages is not time-divided pixel data signals corresponding to the feature of claim 1. Thus, Applicant submits that “Kim” and “Lee”, analyzed singly or in combination, do not teach at least the feature of claim 1. Thirdly, in the Office Action, the Examiner acknowledges that “Kim” does not disclose “generates a first pixel voltage signal level having a first voltage value corresponding to the first time-divided pixel data signal, generates a second pixel voltage signal level having a voltage at least one-step higher in absolute value than the original first pixel voltage signal level in correspondence to at least one and corresponding to the first time-divided pixel data signal” as recited in claim 1. The Examiner cites “Lee” as allegedly curing this deficiency in “Kim”. Applicant respectfully disagrees with the Examiner’s conclusion that “Lee” cures the deficiency in the teachings of “Kim”. In particular, there is no teaching in “Lee” of a digital to analog converter “generates a first pixel voltage signal level having a first voltage value corresponding to the first time-divided pixel data signal, generates a second pixel voltage signal level having a voltage at least one-step higher in absolute value than the first pixel voltage signal level and corresponding to the first time-divided pixel data signal.” For at least these reasons, claim 1 is allowable over “Kim” in view of “Lee”. Claims 2-3 depend on claim 1, and thus, are also allowable over “Kim” in view of “Lee” at least for the same reasons as claim 1.

Claim 13, as amended, is allowable over the cited references in that claim 13 recites a combination of elements including, for example, “...performing time-division on pixel data inputted from an external source to output time-divided pixel data, the pixel data including even

pixel data (RGB even) and odd pixel data (RGB odd); converting the time-divided pixel data into pixel voltage signals; and performing time-division on data lines to supply the converted pixel voltage signals thereto, wherein the step of converting the pixel data into the pixel voltage signals includes: generating the pixel voltage signals each having a first pixel voltage signal level corresponding to the first time divided pixel data and a second pixel voltage signal level having a voltage at least one step higher in absolute value than the first pixel voltage signal level in correspondence to the first pixel time divided pixel data.”

Similar to claim 1, Applicant submits that “Kim” and “Lee”, analyzed singly or in combination, do not teach at least this combination of features. First, claim 13 recites “the pixel data including even pixel data (RGB even) and odd pixel data (RGB odd)”. Both “Kim” and “Lee” do not teach at least the feature of claim 13. Thus, none of the cited references, singly or in combination, teaches or suggests at least the feature of claim 13. Secondly, claim 13 recites “converting the time-divided pixel data into pixel voltage signals”. However, “Kim” does not disclose at least the feature of claim 13. See Fig. 2, item 39, col. 3, lines 40-57. “Kim” discloses “a decoder 39 for selectively outputting one of the 128 analog voltages supplied by an R-ladder and corresponding to output of the multiplexer 37”. One of the 128 analog voltages is not time-divided pixel data corresponding to the feature of claim 13. Thus, Applicant submits that “Kim” and “Lee”, analyzed singly or in combination, do not teach at least the feature of claim 13. Thirdly, in the Office Action, the Examiner acknowledges that “Kim” does not disclose “generating the pixel voltage signals each having a first pixel voltage signal level corresponding to the first time divided pixel data and a second pixel voltage signal level having a voltage at least one step higher in absolute value than the first pixel voltage signal level in correspondence to the first pixel time divided pixel data” as recited in claim 13. The Examiner cites “Lee” as allegedly curing this deficiency in “Kim”. Applicant respectfully disagrees with the Examiner’s conclusion that “Lee” cures the deficiency in the teachings of “Kim”. “Kim” and “Lee” do not teach or suggest at least “generating the pixel voltage signals each having a first pixel voltage signal level corresponding to the first time divided pixel data and a second pixel voltage signal level having a voltage at least one step higher in absolute value than the first pixel voltage signal level in correspondence to the first pixel time divided pixel data.” For at least these reasons, claim 13 is allowable over “Kim” in view of “Lee”.

Claims 4, 7-9, 11, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,097,362) (hereinafter "Kim") and Lee (US 7,095,393) (hereinafter "Lee") as applied to claim 3 above, and further in view of Jeong (US 6,335, 721) (hereinafter "Jeong").

Claims 4, 7-9 and 11, which variously depend from claim 1, are also allowable over "Kim" and "Lee" as applied to claim 3 above, and further in view of "Jeong" at least for the same reasons as claim 1.

Claims 14 and 16, which depend on claim 13, are also allowable over "Kim" and "Lee" as applied to claim 3 above, and further in view of "Jeong" at least for the same reasons as claim 13.

Allowable Subject Matter

The Examiner states that claims 5-6, 10, 12, 15 and 17 contain allowable subject matter.

Applicant thanks the Examiner for the early indication of allowable subject matter in this application; however, Applicant elects not to convert these claims to independent form at this time to permit the Examiner an opportunity to review the remarks and amendments presented in this Paper.

Applicant believes the foregoing amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911.

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Please credit any overpayment to deposit Account No. 50-0911.

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Respectfully submitted,

By Valerie P. Hayes
Valerie P. Hayes
Registration No.: 53,005
McKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
(202) 496-7500
Attorneys for Applicant